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Misophonia as a Psychological Correlate of Anxiety and Depression: The Mediating Role of Obsessive-Compulsive Symptoms

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A B S T R A C T

Purpose: This study aimed to examine the associations between misophonia and stress, anxiety, and depression, with a specific focus on the mediating role of obsessive–compulsive symptom dimensions.

Methods and Materials: This descriptive–correlational, cross-sectional study was conducted on 45 male and female clients with misophonia-related complaints who referred to counseling clinics in Tehran between July and September 2023. Participants completed the Misophonia Questionnaire (MQ), the Maudsley Obsessive–Compulsive Inventory (MOCI), and the Depression, Anxiety, and Stress Scale–21 (DASS-21). Data were analyzed using SPSS (version 27), JASP (version 0.18.1), and SmartPLS (version 4). Given the small sample size and non-normal distribution of variables, partial least squares structural equation modeling (PLS-SEM) was employed to estimate direct, indirect, and total effects. Statistical significance was set at $p < 0.05$.

Findings: Misophonia showed significant direct associations with stress ($\beta = 0.177$, $p = 0.002$), depression ($\beta = 0.252$, $p < 0.001$), and anxiety ($\beta = 0.203$, $p = 0.017$). Mediation analyses indicated that obsessive–compulsive symptoms partially mediated the relationship between misophonia and stress through the checking ($\beta = 0.181$, $p = 0.002$) and doubting ($\beta = 0.107$, $p = 0.019$) dimensions. Cleaning and slowness did not demonstrate significant mediating effects ($p > 0.05$). No obsessive–compulsive symptom components significantly mediated the associations between misophonia and either depression or anxiety. Total effects of misophonia on stress ($\beta = 0.390$), depression ($\beta = 0.390$), and anxiety ($\beta = 0.308$) were all statistically significant ($p < 0.001$).

Conclusion: Misophonia is significantly associated with heightened psychological distress, and specific obsessive–compulsive behaviors, particularly checking and doubting, constitute key pathways linking misophonia to stress but not to anxiety or depression.

Keywords: *Misophonia; Stress; Anxiety; Depression; Obsessive–Compulsive Symptoms*

1. Introduction

Reduced tolerance to specific everyday sounds, known as misophonia, is a severe and disabling condition first described in the early 2000s. It is characterized by intense negative reactions to particular auditory stimuli—such as chewing, breathing, snoring, or throat clearing—which elicit pronounced physiological, emotional, and behavioral responses, including anger, disgust, anxiety, and avoidance behaviors (Ferrer-Torres & Giménez-Llort, 2022; Neacsiu et al., 2022). These responses often lead to marked functional impairment and diminished quality of life.

Accumulating evidence has demonstrated meaningful associations between misophonia and a range of psychological conditions, most notably anxiety and depression (Ay et al., 2024; Yektatalab et al., 2022). Stimuli that are typically neutral or ignored by most individuals provoke heightened emotional arousal in individuals with misophonia, manifesting as anger, disgust, increased heart rate, muscle tension, internal pressure, and anxiety (Rinaldi & Simner, 2023). Given the frequency and severity of these reactions, several researchers have argued that misophonia co-occurs with, or closely resembles, anxiety-related psychopathology (Mutlu et al., 2023). Empirical findings indicate strong positive associations between misophonia severity and anxiety symptoms (Siepsiak et al., 2020), and anxiety disorders have been identified as among the most prevalent comorbid conditions in individuals with misophonia (Rosenthal et al., 2022).

The clinical presentation of misophonia extends beyond basic sensory sensitivity. Symptoms may range from discomfort and distress to intense anger, fear, and hostility, with reactions often shaped less by the acoustic properties of the sound itself than by prior learning experiences, cognitive appraisals, contextual factors, and individual psychological vulnerabilities (Paunovic & Milenković, 2022). When these reactions become severe and disproportionate, individuals may exhibit verbal or even physical aggression toward the perceived source of the sound. Consistent with this, misophonia has also been associated with depressive symptoms and reduced subjective well-being (Antonia & Giménez-Llort, 2020). For example, Siepsiak et al. reported significant relationships between misophonia severity and depression, intrusive thoughts, and somatic pain (Siepsiak et al., 2020), while other studies have documented elevated rates of depressive symptoms among individuals with misophonia (Bishop, 2020).

Comorbidity studies further suggest a substantial overlap between misophonia and obsessive–compulsive symptomatology. Approximately 28% of individuals with misophonia present with clinically significant symptoms of co-occurring psychiatric conditions, with major depressive disorder, attention-deficit/hyperactivity disorder, and obsessive–compulsive disorder (OCD) being among the most prevalent (Möllmann et al., 2023). Some studies report that up to 52% of individuals with misophonia exhibit obsessive–compulsive features, including checking and cleaning behaviors (Neacsiu et al., 2022). Research has also identified obsessive–compulsive pathology as a key predictor of misophonia severity, alongside disorders such as panic disorder and borderline personality disorder (Rosenthal et al., 2022). Moreover, individuals with comorbid OCD and misophonia appear to demonstrate heightened tendencies toward obsessions and compulsive behaviors, particularly in cleaning-related domains (Begenen et al., 2023).

Despite increasing recognition of misophonia's psychological correlates, its role as a transdiagnostic factor underlying anxiety and depressive symptoms remains insufficiently investigated. Moreover, although obsessive–compulsive symptoms are frequently observed in individuals with misophonia, few studies have examined whether these symptoms function as intermediary pathways linking misophonia to broader psychological distress. Clarifying these relationships is particularly important given that misophonia has not yet been formally recognized within major diagnostic classification systems, which may contribute to its underassessment in clinical practice.

Accordingly, the present study aimed to examine misophonia as a psychological correlate of anxiety and depression, with a specific focus on the mediating role of obsessive–compulsive symptoms. By employing a path-analytic framework, this study sought to address a critical gap in the literature and to provide a more integrative understanding of the mechanisms through which misophonia is associated with psychological distress. The proposed theoretical model guiding the study is presented in Figure 1.

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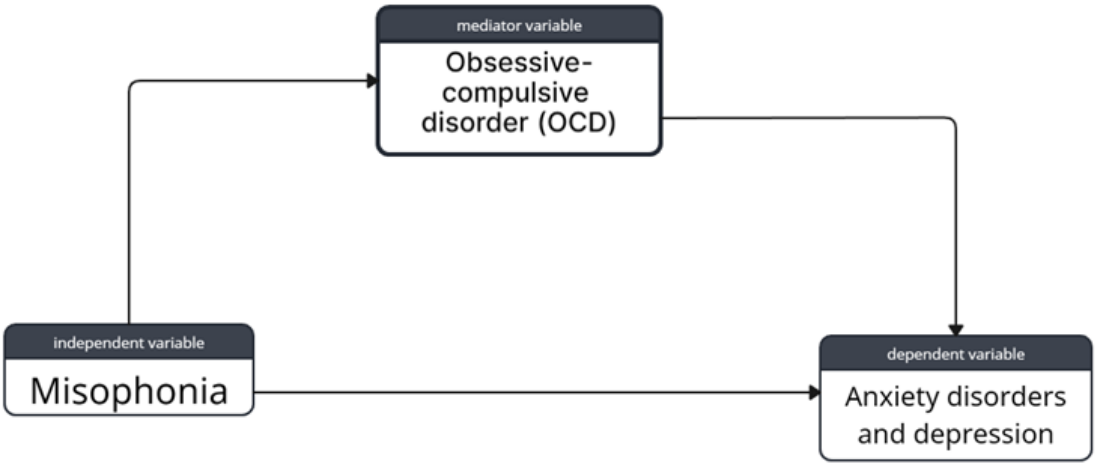
Figure 1

Conceptual framework of the research



2. Methods and Materials

2.1. Study Design and Participants

The present study employed a descriptive–correlational, cross-sectional design using path analysis within a structural modeling framework. Misophonia was specified as the independent variable, anxiety and depression as dependent variables, and obsessive–compulsive symptoms as mediating variables. The study population consisted of male and female clients seeking treatment for misophonia-related complaints at psychology and counseling clinics in Tehran between July and September 2023. A total of 45 participants were recruited using purposive sampling. Sample size adequacy was initially estimated using Cohen's (2013) guidelines for structural equation modeling (SEM) (Cohen, 2013). Based on an anticipated effect size of 0.30, statistical power of 0.80, three latent variables, 58 observed variables, and a significance level of 0.01, a minimum sample size of 119 participants was recommended. However, difficulties in recruiting individuals with misophonia resulted in a substantially smaller final sample.

The eligibility criteria for exiting the study included failing to answer more than nine questions on the questionnaires and having a physical or mental condition that hindered participation, leading to withdrawal from the research. The research commenced with obtaining necessary permissions from the researcher's university, followed by seeking assistance from university instructors to connect with five counseling centers in Tehran (the names of the centers are confidential). "These particular mental facilities were chosen because they were conveniently located and ideal for conducting research." Subsequently, the researcher purposefully invited eligible clients from these centers to partake in the study. Each individual received detailed information about the research objectives, permits, and ethical principles that must be adhered to.

2.2. Procedure

After obtaining ethical approval from the affiliated university, the researcher collaborated with faculty members to establish contact with five counseling centers in Tehran (center names withheld for confidentiality). Eligible clients were purposively invited to participate. All participants received detailed information regarding study objectives, ethical considerations, voluntary participation, confidentiality, and their right to withdraw at any time.

Data collection was conducted in person and offline (paper-based) over a two-month period, a duration partly attributable to limited participant cooperation. Of the 119 questionnaires initially distributed, only 45 were retained for final analysis, as 74 participants withdrew or provided incomplete or invalid responses.

The high attrition rate may be attributed to the clinical characteristics of individuals with misophonia, including heightened emotional reactivity, irritability, sensory sensitivity, social avoidance, and frequent comorbidity with anxiety and depressive symptoms. Additional contributing factors included emotional discomfort during questionnaire completion, mental fatigue, concerns about disclosure of

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personal experiences, symptom exacerbation, difficulty accessing individuals with misophonia, and limited referral to specialized centers. Furthermore, the length and number of questionnaires resulted in incomplete responses or implausible answer patterns, leading to data exclusion.

Despite the reduced sample size, the final number of participants was considered acceptable given the exploratory nature of the study, its cross-sectional design, non-normal data distribution, and the use of partial least squares structural equation modeling (PLS-SEM), which is less sensitive to sample size constraints.

2.3. Tools

Maudsley Obsessive-Compulsive Inventory (MOCI): The self-report questionnaire was developed in 1977 by Hodgson and Rachman to assess obsessive problems in individuals (Hodgson & Rachman, 1977). It consists of 30 items measured on a 2-option Likert scale (yes or no). The questionnaire includes sub-scores for checking (questions 2 ,6, 8, 14 ,15 ,20 ,22 ,26 ,28), cleaning (1,4,5,9,13,17,19,21,24, 26, 27), slowness (2,4 ,8,16,23,25,29), and doubting (3,7,10,11,12,18,30). In a study conducted in Iran, Cronbach's alpha coefficient for checking was 0.76, cleaning was 0.80, slowness was 0.71, and doubt was 0.80 (Moghadam et al., 2014). In this study, the Cronbach's alpha coefficient for the checking components was found to be 0.820, 0.710 for cleaning, 0.801 for slowness, and 0.702 for doubt. The researcher also determined the composite reliability values for the components as 0.832, 0.761, 0.843, and 0.731, and the AVE values for convergent validity were 0.53, 0.56, 0.54, and 0.51, respectively.

Depression, Anxiety, and Stress Scale–21 (DASS-21): In 1995, Lovibond and Lovibond created a survey that individuals could fill out to determine their levels of depression, anxiety, and stress (Lovibond & Lovibond, 1995). The survey initially had 46 questions but was later reduced to 21 questions. It uses a 4-point Likert scale ranging from 0 to 3. The questionnaire comprises three main subscales - depression, anxiety, and stress - each with seven questions. Scores on each subscale range from 0 to 21. When studied in Iran, the questionnaire demonstrated high reliability with Cronbach's alpha coefficients ranging from 0.88 to 0.89 (Besharat et al., 2015). A subsequent study found Cronbach's alpha coefficients of 0.73, 0.82, and 0.71 for stress, depression, and anxiety, respectively. Composite reliability values were 0.74, 0.83, and 0.76, while average variance extracted (AVE) values for validity were 0.66, 0.53, and 0.56, for stress, depression, and anxiety components, respectively.

Misophonia questionnaire (MQ): In 2014, Wu et al. developed a self-report questionnaire to assess Misophonia, noise aversion symptoms, emotions, behaviors, and general sound sensitivity in individuals. It consists of 17 items measured on a 5-point Likert scale ranging from 0 (never) to 4 (always). The questionnaire includes three subscales for Misophonia symptoms, emotions, and impairment. Scores on the scale range from 0 to 68. In a study conducted in Iran, the Cronbach's alpha coefficient for this questionnaire was 0.78. The research in question reported a Cronbach's alpha coefficient of 0.730, a composite reliability value of 0.741, and an AVE value of 0.66 for validity.

2.4. Statistical analyses

The researchers utilized SPSS version 27 software for descriptive statistics and JASP version 0.18.1 software for analyzing data and standard coefficients. Similarly, SmartPLS version 4 software was used to analyze path coefficients. employed the Shapiro-Wilk test to assess the normality of the distribution of the study variables. Given the non-normal distribution of the variables and the small sample size, the researcher opted for the partial least squares method instead of assuming normality and a large sample size. Accordingly, the partial least squares method was used as an appropriate method for path analysis, estimating standard coefficients, and examining direct, indirect, and total effects in conditions of non-normal data and limited sample. The study set a p-value of 0.05. Similarly, the research design was cross-sectional, and therefore the results obtained do not imply definitive causality. In this study, the use of the term "effect" merely refers to the directional relationships estimated within the framework of path analysis and based on the proposed conceptual model, and is not interpreted as a true causal relationship, but rather represents the communication and structural patterns between variables.

3. Findings and Results

The final sample consisted of 45 individuals receiving psychological services at counseling clinics. With respect to educational attainment, 15.6% held a diploma, 17.8% an undergraduate degree, and 66.7% a master’s degree. Participants were distributed across the following age ranges: 20–25 years (24.4%), 25–30 years (11.1%), and 30–

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35 years (64.4%). Regarding marital status, 33.3% were single and 66.7% were married. The sample included 44.4% men and 55.6% women. Descriptive information is summarized in Table 1.

Table 1

Descriptive statistics of the variables

Variables	Groups	F	%	T	Md
Marital Status	Single	15	33.3	45	2
	Married	30	66.7		
Age	20-25	11	24.4	45	3
	25-30	5	11.1		
	30-35	29	64.4		
Education	Diploma Degree	7	15.6	45	3
	Undergraduate	8	17.8		
	Master's Degree	30	66.7		
Gender	Man	20	44.4	45	2
	Female	25	55.6		

Means, standard deviations, skewness, kurtosis, and normality tests for the study variables are presented in Table 2. The results of the Shapiro–Wilk test indicated that none of the primary variables followed a normal distribution ($p < 0.05$), supporting the use of non-parametric and variance-based analytical approaches such as PLS-SEM.

Table 2

Description of the main research variables

Variable	N	M	SD	Skewness	Kurtosis	Shapiro-Wilk	P-value	Min	Max
Stress	45	12.089	2.762	-0.158	-1.079	0.945	0.034	7	17
Depression	45	11.756	3.283	0.049	-1.210	0.949	0.045	6	18
Anxiety	45	12.222	3.183	-0.279	-1.239	0.920	0.004	7	17
Misophonia	45	9.578	1.790	-0.593	-0.823	0.892	< .001	6	12
Checking	45	5.244	1.747	-0.286	-0.847	0.924	0.006	2	8
Cleaning	45	5.733	2.104	0.538	-0.995	0.882	< .001	3	10
Slowness	45	3.222	1.166	0.986	0.310	0.835	< .001	2	6
Doubting	45	3.933	1.232	0.056	-0.974	0.914	0.003	2	6

Pearson correlation coefficients among the study variables are reported in Table 3. Misophonia exhibited strong and significant positive correlations with stress ($r = 0.697$), depression ($r = 0.697$), anxiety ($r = 0.551$), checking ($r = 0.601$), cleaning ($r = 0.344$), and doubting ($r = 0.502$), all statistically significant ($p \leq 0.021$). The association between misophonia and slowness was not statistically significant ($r = 0.231$, $p = 0.127$).

All obsessive–compulsive symptom components demonstrated significant positive correlations with stress, depression, and anxiety, with the strongest associations observed between checking and stress ($r = 0.730$) and between doubting and stress ($r = 0.636$).

E-ISSN: 2980-9681

Table 3

Pearson's Correlations

Variable		1	2	3	4	5	6	7	8
1. Misophonia	Pearson's r	—							
	p-value	—							
2. Stress	Pearson's r	0.697	—						
	p-value	< .001	—						
3. Depression	Pearson's r	0.697	0.659	—					
	p-value	< .001	< .001	—					
4. Anxiety	Pearson's r	0.551	0.502	0.638	—				
	p-value	< .001	< .001	< .001	—				
5. Checking	Pearson's r	0.601	0.730	0.664	0.513	—			
	p-value	< .001	< .001	< .001	< .001	—			
6. Cleaning	Pearson's r	0.344	0.360	0.527	0.355	0.680	—		
	p-value	0.021	0.015	< .001	0.017	< .001	—		
7. Slowness	Pearson's r	0.231	0.241	0.347	0.280	0.475	0.609	—	
	p-value	0.127	0.111	0.019	0.062	< .001	< .001	—	
8. Doubting	Pearson's r	0.502	0.636	0.631	0.462	0.705	0.721	0.485	—
	p-value	< .001	< .001	< .001	0.001	< .001	< .001	< .001	—

Table 4

Path Coefficients

							95% Confidence Interval	
			Estimate	Std. Error	z-value	p	Lower	Upper
Checking	→	Stress	0.541	0.134	4.046	< .001	0.279	0.803
Cleaning	→	Stress	-0.355	0.134	-2.641	0.008	-0.619	-0.092
Slowness	→	Stress	-0.058	0.101	-0.571	0.568	-0.255	0.140
Doubting	→	Stress	0.380	0.130	2.929	0.003	0.126	0.634
Misophonia	→	Stress	0.177	0.057	3.094	0.002	0.065	0.289
Checking	→	Depression	0.181	0.155	1.166	0.244	-0.123	0.485
Cleaning	→	Depression	0.106	0.156	0.678	0.498	-0.200	0.412
Slowness	→	Depression	-0.006	0.117	-0.054	0.957	-0.236	0.223
Doubting	→	Depression	0.203	0.151	1.349	0.177	-0.092	0.498
Misophonia	→	Depression	0.252	0.066	3.797	< .001	0.122	0.383
Checking	→	Anxiety	0.193	0.199	0.967	0.333	-0.198	0.584
Cleaning	→	Anxiety	-0.041	0.201	-0.202	0.840	-0.434	0.352
Slowness	→	Anxiety	0.060	0.150	0.398	0.691	-0.235	0.355
Doubting	→	Anxiety	0.143	0.193	0.741	0.459	-0.236	0.522
Misophonia	→	Anxiety	0.203	0.085	2.379	0.017	0.036	0.371
Misophonia	→	Checking	0.336	0.067	5.039	< .001	0.205	0.466
Misophonia	→	Cleaning	0.192	0.078	2.454	0.014	0.039	0.345
Misophonia	→	Slowness	0.129	0.081	1.594	0.111	-0.030	0.288
Misophonia	→	Doubting	0.281	0.072	3.896	< .001	0.139	0.422

Path coefficients estimated using PLS-SEM are reported in Table 4, and the structural model is illustrated in Figure 2. The results indicated that misophonia was significantly and directly associated with all three outcome variables. Specifically, misophonia showed a positive and statistically significant direct effect on stress ($\beta = 0.177$, SE = 0.057, $z = 3.094$, $p = 0.002$), depression ($\beta = 0.252$, SE = 0.066, $z = 3.797$, $p < 0.001$), and anxiety ($\beta = 0.203$, SE = 0.085, $z = 2.379$, $p = 0.017$). With respect to obsessive–compulsive symptom dimensions, checking and doubting exhibited significant positive paths to stress, whereas cleaning was negatively associated with stress. In contrast, none of the obsessive–compulsive components demonstrated significant direct effects on either depression or anxiety. Additionally, misophonia had significant direct effects on checking, cleaning, and doubting ($p < 0.05$), while its direct effect on slowness was not statistically significant.

E-ISSN: 2980-9681

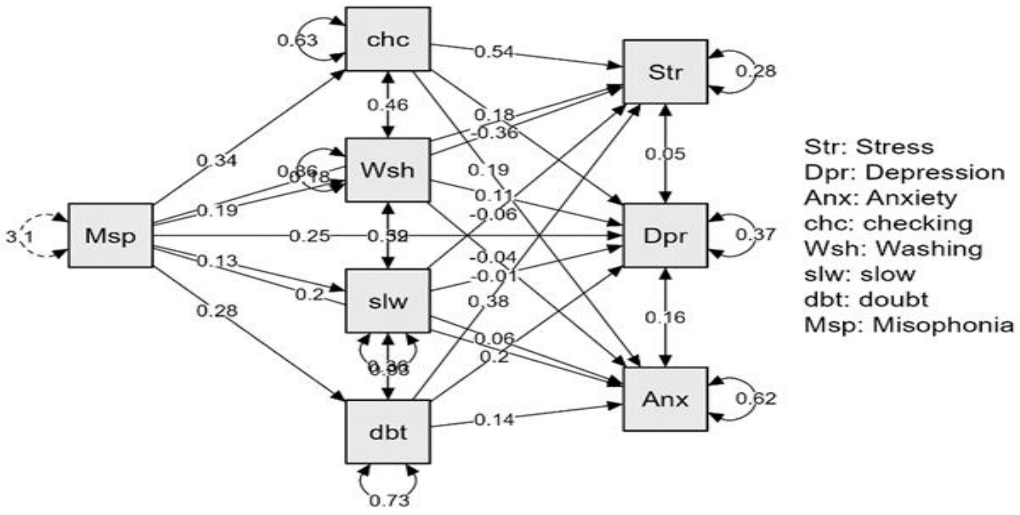
Table 5

Direct/Indirect and Total Effects

		Estimate	Error	z-value	p	95% Confidence Interval	
						Lower	Upper
Direct Effects	Misophonia →Stress	0.177	0.057	3.094	0.002	0.065	0.289
	Misophonia→ Depression	0.252	0.066	3.797	< .001	0.122	0.383
	Misophonia→ Anxiety	0.203	0.085	2.379	0.017	0.036	0.371
Indirect Effects	Misophonia →Checking→ Stress	0.181	0.058	3.155	0.002	0.069	0.294
	Misophonia →Cleaning→ Stress	-0.068	0.038	-1.798	0.072	-0.142	0.006
	Misophonia →Slowness→ Stress	-0.007	0.014	-0.537	0.591	-0.035	0.020
	Misophonia→ Doubting→ Stress	0.107	0.046	2.341	0.019	0.017	0.196
	Misophonia→ Checking→ Depression	0.061	0.053	1.136	0.256	-0.044	0.165
	Misophonia→ Cleaning→ Depression	0.020	0.031	0.654	0.513	-0.041	0.081
	Misophonia→ Slowness→ Depression	-8.1×10^{-4}	0.015	-0.054	0.957	-0.030	0.029
	Misophonia→ Doubting→ Depression	0.057	0.045	1.275	0.202	-0.031	0.145
	Misophonia→ Checking→ Anxiety	0.065	0.068	0.950	0.342	-0.069	0.198
	Misophonia→ Cleaning→ Anxiety	-0.008	0.039	-0.202	0.840	-0.083	0.068
	Misophonia→ Slowness→ Anxiety	0.008	0.020	0.386	0.699	-0.032	0.047
	Misophonia→ Doubting→ Anxiety	0.040	0.055	0.728	0.467	-0.068	0.148
Total Effects	Misophonia →Stress	0.390	0.060	6.526	< .001	0.273	0.507
	Misophonia→ Depression	0.390	0.060	6.529	< .001	0.273	0.507
	Misophonia→ Anxiety	0.308	0.069	4.434	< .001	0.172	0.444

Figure 2

Statistical Diagram



Indirect, direct, and total effects are summarized in Table 5. The results indicated that misophonia exerted significant indirect effects on stress through specific obsessive–compulsive symptom dimensions. In particular, the indirect pathway from misophonia to stress via checking was statistically significant (β = 0.181, SE = 0.058, z = 3.155, p = 0.002), as was the indirect effect mediated by doubting (β = 0.107, SE = 0.046, z = 2.341, p = 0.019). In contrast, the indirect paths through cleaning and slowness were not statistically significant (p > 0.05), indicating that these components did not mediate the relationship between misophonia and stress. With respect to depression, none of the obsessive–compulsive symptom components, including checking, cleaning, slowness, or doubting, showed a

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significant mediating role in the association between misophonia and depression ($p > 0.05$). Similarly, the analysis of indirect effects for anxiety revealed no statistically significant mediation through any of the obsessive–compulsive symptom dimensions ($p > 0.05$).

4. Discussion and Conclusion

The present study aimed to examine the association between misophonia and psychological outcomes, specifically stress, anxiety, and depression, while emphasizing the mediating role of obsessive–compulsive symptom dimensions. The findings demonstrated that misophonia was directly associated with higher levels of stress, anxiety, and depression and was also significantly related to specific obsessive–compulsive behaviors, particularly checking and doubting. Moreover, checking and doubting were found to play a significant mediating role in the relationship between misophonia and stress, whereas no mediating effects were observed for depression or anxiety. These results suggest that obsessive–compulsive symptoms function as specific psychological pathways through which misophonia intensifies stress rather than exerting a generalized effect across all negative emotional outcomes.

The finding that obsessive–compulsive symptoms are associated with elevated stress levels is consistent with previous research indicating that individuals with obsessive–compulsive disorder (OCD) experience heightened stress due to persistent intrusive thoughts and repetitive compulsive behaviors (Ferreira et al., 2021; Wang et al., 2023). Prior studies have also shown that individuals with OCD often struggle with adaptive emotion regulation and tend to rely on maladaptive strategies such as thought suppression while underutilizing cognitive reappraisal, a pattern that contributes to chronic stress (Ferreira et al., 2021). Additionally, significant associations between perceived stress and obsessive symptoms have been reported, further underscoring the stress-inducing nature of obsessive cognition (Wang et al., 2023). From a psychopathological perspective, OCD is characterized by recurrent and distressing obsessions accompanied by compulsions aimed at reducing anxiety. Although compulsive behaviors may provide temporary relief, they perpetuate a cycle of anxiety and stress by reinforcing threat-based interpretations and excessive self-monitoring.

Cognitive attempts to suppress intrusive thoughts have been shown to paradoxically increase their frequency and intensity, leading to greater psychological distress and sustained physiological arousal (Ferreira et al., 2021). This ongoing cognitive effort is associated with dysregulation of the hypothalamic–pituitary–adrenal (HPA) axis, resulting in heightened cortisol secretion and increased vulnerability to stress-related impairment in OCD populations. Chronic exposure to such stress not only exacerbates obsessive–compulsive symptoms but also negatively affects social, occupational, and interpersonal functioning, ultimately reducing overall quality of life for patients and their families (Malisiova et al., 2020; Tulacı & Kasal, 2023). The present findings support this framework by demonstrating that checking and doubting behaviors, which are central components of OCD symptomatology, significantly contribute to elevated stress levels.

Beyond obsessive–compulsive mechanisms, the present study found that misophonia was significantly associated with increased levels of stress, depression, anxiety, checking, cleaning, and doubting, consistent with earlier empirical evidence (Antonia & Giménez-Llort, 2020; Begenen et al., 2023; Bishop, 2020; Rosenthal et al., 2022; Siepsiak et al., 2020; Yektatalab et al., 2022). Previous studies have documented robust associations between misophonia and psychiatric comorbidities, including OCD, anxiety disorders, and depressive symptoms (Yektatalab et al., 2022). Evidence further indicates that greater severity of misophonia symptoms is associated with higher levels of anxiety and depression (Siepsiak et al., 2020), and that anxiety disorders are among the most prevalent mental health conditions co-occurring with misophonia, serving as significant predictors of its severity (Rosenthal et al., 2022). Additional research has reported elevated depressive symptoms and increased obsessive–compulsive behaviors, particularly cleaning and checking, among individuals with misophonia (Antonia & Giménez-Llort, 2020; Begenen et al., 2023; Bishop, 2020). Collectively, these findings reinforce the conceptualization of misophonia as a condition embedded within broader emotional and compulsive regulatory processes.

Misophonia is characterized by intense emotional reactions, such as anger, disgust, or distress, in response to specific repetitive or context-bound sounds. These reactions are closely linked to heightened physiological arousal and increased levels of stress, anxiety, and depression (Rinaldi & Simner, 2023). Individuals with misophonia often cope with auditory triggers by avoiding environments or internal experiences associated with distressing sounds. While avoidance may temporarily reduce discomfort, it frequently leads to social withdrawal, isolation, and diminished

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emotional well-being, thereby increasing vulnerability to depressive symptoms (Guetta et al., 2022). Persistent exposure to distressing auditory stimuli activates the sympathetic nervous system and the fight-or-flight response, resulting in repeated cortisol release. Over time, this repeated activation contributes to chronic stress and heightened emotional reactivity (Kumar et al., 2017). Compulsive behaviors such as checking or cleaning may emerge as attempts to regain control or reduce uncertainty following exposure to triggering sounds; however, these behaviors ultimately maintain stress by reinforcing vigilance and perceived threat (Neacsiu et al., 2022).

Despite the theoretical and clinical relevance of these findings, several limitations should be considered. The sample consisted solely of individuals with misophonia, which limits the generalizability of the results to other populations. Self-report measures may have been influenced by social desirability or stigma, potentially leading to underreporting of obsessive–compulsive, anxiety, or depressive symptoms. Additionally, contextual factors such as occupational stress, family dynamics, and socioeconomic conditions were not controlled and may have contributed to psychological distress. The potential effects of psychotropic medication on obsessive–compulsive symptoms and emotional outcomes were also not systematically examined. Furthermore, individual differences in the type and intensity of misophonic triggers may influence emotional and behavioral responses, suggesting the need for future studies with larger and more heterogeneous samples using longitudinal and multimethod designs.

The findings of this study indicate that misophonia plays a significant role in the development and maintenance of psychological distress, particularly stress, depression, and anxiety. Importantly, the results demonstrate that compulsive behaviors, specifically checking and doubting, serve as key mechanisms through which misophonia intensifies stress. These findings highlight a vicious cycle in which misophonia triggers compulsive responses that temporarily reduce distress yet ultimately exacerbate stress through persistent threat monitoring and behavioral reinforcement. Clinically, the results emphasize the importance of addressing compulsive behaviors when designing psychological interventions for individuals with misophonia. Targeting maladaptive coping strategies such as checking and doubt-driven behaviors may help reduce stress and improve emotional regulation. The findings may also inform families and caregivers by enhancing understanding of the psychological challenges faced by individuals with misophonia and guiding the development of supportive environments that minimize stress. In occupational and educational contexts, reducing noise exposure and teaching adaptive coping strategies may mitigate stress responses. Finally, interdisciplinary collaboration among psychology, psychiatry, and neuroscience is recommended to further elucidate the neurobiological and cognitive mechanisms underlying misophonia and its association with stress-related psychopathology.

Authors' Contributions

All authors contributed equally to the conception and design of the study, data collection and analysis, interpretation of the results, and drafting of the manuscript. Each author approved the final version of the manuscript for submission.

Declaration

AI-assisted tools (including large language models) were used to support English-language editing and clarity of presentation. The authors reviewed, edited, and verified all content and take full responsibility for the accuracy, integrity, and originality of the final manuscript. No AI tool was used to generate or manipulate the study data, analyses, or results.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The ethical approval was received from Research Ethics Committees of Islamic Azad University - Karaj Branch IR.IAU.K.REC.1402.138.

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